STIC Biotechnology Systems Branch

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Application Serial Number: 10/781,059
Source: IFW0
Date Processed by STIC: 06/16/2006

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FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

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Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>, **EFS Submission User Manual** - ePAVE)
2. **U.S. Postal Service:** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
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Revised 01/10/06

IFW0

RAW SEQUENCE LISTING DATE: 06/16/2006
PATENT APPLICATION: US/10/781,059 TIME: 12:31:59

Input Set : E:\7326-132.TXT
Output Set: N:\CRF4\06162006\J781059.raw

<110> APPLICANT: Spyridon Artavanis-Tsakonas
Huilin Qi
Matthew Rand
<120> TITLE OF INVENTION: ACTIVATED FORMS OF NOTCH AND METHODS
BASED THEREON
<130> FILE REFERENCE: 7326-132-999
<140> CURRENT APPLICATION NUMBER: 10/781,059
<141> CURRENT FILING DATE: 2004-02-17
<150> PRIOR APPLICATION NUMBER: 09/121,457
<151> PRIOR FILING DATE: 1998-07-23
<150> PRIOR APPLICATION NUMBER: 08/899,232
<151> PRIOR FILING DATE: 1997-07-23
<160> NUMBER OF SEQ ID NOS: 4
<170> SOFTWARE: FastSEQ for Windows Version 4.0
<210> SEQ ID NO: 1
<211> LENGTH: 2471
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEQUENCE: 1

Does Not Comply
Corrected Diskette Needed
(pg-6, 8, 10)

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 1               5                  10                  15
Leu Cys Cys Ala Ala Pro Ala His Ala Leu Gln Cys Arg Asp Gly Tyr
            20                  25                  30
Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr His Asn Gly Thr
        35                  40                  45
Gly Tyr Cys Lys Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
    50                  55                  60
Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
65                  70                  75                  80
Ala Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Ser Gly Phe
                85                  90                  95
Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
            100                 105                 110
Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser Arg Asp Thr
        115                 120                 125
Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu Cys Gln Trp
    130                 135                 140
Thr Asp Ala Cys Leu Ser His Pro Cys Ala Asn Gly Ser Thr Cys Thr
145                 150                 155                 160
Thr Val Ala Asn Gln Phe Ser Cys Lys Cys Leu Thr Gly Phe Thr Gly
                165                 170                 175
Gln Lys Cys Glu Thr Asp Val Asn Glu Cys Asp Ile Pro Gly His Cys
            180                 185                 190
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RAW SEQUENCE LISTING DATE: 06/16/2006
PATENT APPLICATION: US/10/781,059 TIME: 12:31:59

Input Set : E:\7326-132.TXT
Output Set: N:\CRF4\06162006\J781059.raw

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58 Cys Pro Gln Gly Phe Thr Gly Gln Tyr Cys Asp Ser Leu Tyr Val Pro
59     210                 215                 220
60 Cys Ala Pro Ser Pro Cys Val Asn Gly Gly Thr Cys Arg Gln Thr Gly
61 225                 230                 235                 240
62 Asp Phe Thr Phe Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly Ser Thr
63                 245                 250                 255
64 Cys Glu Arg Asn Ile Asp Asp Cys Pro Asn His Arg Cys Gln Asn Gly
65             260                 265                 270
66 Gly Val Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro
67         275                 280                 285
68 Gln Trp Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys Leu Leu
69     290                 295                 300
70 Gln Pro Asn Ala Cys Gln Asn Gly Gly Thr Cys Ala Asn Arg Asn Gly
71 305                 310                 315                 320
72 Gly Tyr Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp Cys Ser
73                 325                 330                 335
74 Glu Asn Ile Asp Asp Cys Ala Phe Ala Ser Cys Thr Pro Gly Ser Thr
75             340                 345                 350
76 Cys Ile Asp Arg Val Ala Ser Phe Ser Cys Met Cys Pro Glu Gly Lys
77         355                 360                 365
78 Ala Gly Leu Leu Cys His Leu Asp Asp Ala Cys Ile Ser Asn Pro Cys
79     370                 375                 380
80 His Lys Gly Ala Leu Cys Asp Thr Asn Pro Leu Asn Gly Gln Tyr Ile
81 385                 390                 395                 400
82 Cys Thr Cys Pro Gln Gly Tyr Lys Gly Ala Asp Cys Thr Glu Asp Val
83                 405                 410                 415
84 Asp Glu Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala Gly Lys
85             420                 425                 430
86 Cys Val Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys Gly Tyr
87         435                 440                 445
88 Ala Gly Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser Asp Pro
89     450                 455                 460
90 Cys Gln Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe Thr Cys
91 465                 470                 475                 480
92 Leu Cys Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu Ile Asn
93                 485                 490                 495
94 Glu Cys Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val Asp Lys
95             500                 505                 510
96 Val Asn Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly Pro Val
97         515                 520                 525
98 Cys Gln Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu Asn Gly
99     530                 535                 540
100 Ala Lys Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys Ala Thr
101 545                 550                 555                 560
102 Gly Phe Thr Gly Val Leu Cys Glu Glu Asn Ile Asp Asn Cys Asp Pro
103                 565                 570                 575
104 Asp Pro Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser Tyr Thr
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RAW SEQUENCE LISTING DATE: 06/16/2006
PATENT APPLICATION: US/10/781,059 TIME: 12:31:59

Input Set : E:\7326-132.TXT
Output Set: N:\CRF4\06162006\J781059.raw

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105                 580                 585                 590
106 Cys Ile Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp Gln Ile
107         595                 600                 605
108 Asp Glu Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys Ile Asp
109     610                 615                 620
110 Leu Val Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser Gly Val
111 625                 630                 635                 640
112 Asn Cys Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys Ile His
113                 645                 650                 655
114 Gly Ile Cys Met Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys Ser Pro
115                 660                 665                 670
116 Gly Phe Thr Gly Gln Arg Cys Asn Ile Asp Ile Asp Glu Cys Ala Ser
117         675                 680                 685
118 Asn Pro Cys Arg Lys Gly Ala Thr Cys Ile Asn Gly Val Asn Gly Phe
119     690                 695                 700
120 Arg Cys Ile Cys Pro Glu Gly Pro His His Pro Ser Cys Tyr Ser Gln
121 705                 710                 715                 720
122 Val Asn Glu Cys Leu Ser Asn Pro Cys Ile His Gly Asn Cys Thr Gly
123                 725                 730                 735
124 Gly Leu Ser Gly Tyr Lys Cys Leu Cys Asp Ala Gly Trp Val Gly Ile
125                 740                 745                 750
126 Asn Cys Glu Val Asp Lys Asn Glu Cys Leu Ser Asn Pro Cys Gln Asn
127         755                 760                 765
128 Gly Gly Thr Cys Asp Asn Leu Val Asn Gly Tyr Arg Cys Thr Cys Lys
129     770                 775                 780
130 Lys Gly Phe Lys Gly Tyr Asn Cys Gln Val Asn Ile Asp Glu Cys Ala
131 785                 790                 795                 800
132 Ser Asn Pro Cys Leu Asn Gln Gly Thr Cys Phe Asp Asp Ile Ser Gly
133                 805                 810                 815
134 Tyr Thr Cys His Cys Val Leu Pro Tyr Thr Gly Lys Asn Cys Gln Thr
135                 820                 825                 830
136 Val Leu Ala Pro Cys Ser Pro Asn Pro Cys Glu Asn Ala Ala Val Cys
137         835                 840                 845
138 Lys Glu Ser Pro Asn Phe Glu Ser Tyr Thr Cys Leu Cys Ala Pro Gly
139     850                 855                 860
140 Trp Gln Gly Gln Arg Cys Thr Ile Asp Ile Asp Glu Cys Ile Ser Lys
141 865                 870                 875                 880
142 Pro Cys Met Asn His Gly Leu Cys His Asn Thr Gln Gly Ser Tyr Met
143                 885                 890                 895
144 Cys Glu Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu Asp Ile
145                 900                 905                 910
146 Asp Asp Cys Leu Ala Asn Pro Cys Gln Asn Gly Gly Ser Cys Met Asp
147         915                 920                 925
148 Gly Val Asn Thr Phe Ser Cys Leu Cys Leu Pro Gly Phe Thr Gly Asp
149     930                 935                 940
150 Lys Cys Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn
151 945                 950                 955                 960
152 Gly Gly Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Lys Cys Gln
153                 965                 970                 975
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RAW SEQUENCE LISTING DATE: 06/16/2006
PATENT APPLICATION: US/10/781,059 TIME: 12:31:59

Input Set : E:\7326-132.TXT
Output Set: N:\CRF4\06162006\J781059.raw

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154 Ala Gly Phe Asp Gly Val His Cys Glu Asn Asn Ile Asn Glu Cys Thr
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156 Glu Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile Asn Ser
157         995                 1000                1005
158 Phe Ser Cys Leu Cys Pro Val Gly Phe Thr Gly Ser Phe Cys Leu His
159     1010                1015                1020
160 Glu Ile Asn Glu Cys Ser Ser His Pro Cys Leu Asn Glu Gly Thr Cys
161 1025                1030                1035                1040
162 Val Asp Gly Leu Gly Thr Tyr Arg Cys Ser Cys Pro Leu Gly Tyr Thr
163                 1045                1050                1055
164 Gly Lys Asn Cys Gln Thr Leu Val Asn Leu Cys Ser Arg Ser Pro Cys
165             1060                1065                1070
166 Lys Asn Lys Gly Thr Cys Val Gln Lys Lys Ala Glu Ser Gln Cys Leu
167         1075                1080                1085
168 Cys Pro Ser Gly Trp Ala Gly Ala Tyr Cys Asp Val Pro Asn Val Ser
169     1090                1095                1100
170 Cys Asp Ile Ala Ala Ser Arg Arg Gly Val Leu Val Glu His Leu Cys
171 1105                1110                1115                1120
172 Gln His Ser Gly Val Cys Ile Asn Ala Gly Asn Thr His Tyr Cys Gln
173                 1125                1130                1135
174 Cys Pro Leu Gly Tyr Thr Gly Ser Tyr Cys Glu Glu Gln Leu Asp Glu
175             1140                1145                1150
176 Cys Ala Ser Asn Pro Cys Gln His Gly Ala Thr Cys Ser Asp Phe Ile
177         1155                1160                1165
178 Gly Gly Tyr Arg Cys Glu Cys Val Pro Gly Tyr Gln Gly Val Asn Cys
179     1170                1175                1180
180 Glu Tyr Glu Val Asp Glu Cys Gln Asn Gln Pro Cys Gln Asn Gly Gly
181 1185                1190                1195                1200
182 Thr Cys Ile Asp Leu Val Asn His Phe Lys Cys Ser Cys Pro Pro Gly
183                 1205                1210                1215
184 Thr Arg Gly Leu Leu Cys Glu Glu Asn Ile Asp Asp Cys Ala Arg Gly
185             1220                1225                1230
186 Pro His Cys Leu Asn Gly Gly Gln Cys Met Asp Arg Ile Gly Gly Tyr
187         1235                1240                1245
188 Ser Cys Arg Cys Leu Pro Gly Phe Ala Gly Glu Arg Cys Glu Gly Asp
189     1250                1255                1260
190 Ile Asn Glu Cys Leu Ser Asn Pro Cys Ser Ser Glu Gly Ser Leu Asp
191 1265                1270                1275                1280
192 Cys Ile Gln Leu Thr Asn Asp Tyr Leu Cys Val Cys Arg Ser Ala Phe
193                 1285                1290                1295
194 Thr Gly Arg His Cys Glu Thr Phe Val Asp Val Cys Pro Gln Met Pro
195             1300                1305                1310
196 Cys Leu Asn Gly Gly Thr Cys Ala Val Ala Ser Asn Met Pro Asp Gly
197         1315                1320                1325
198 Phe Ile Cys Arg Cys Pro Pro Gly Phe Ser Gly Ala Arg Cys Gln Ser
199     1330                1335                1340
200 Ser Cys Gly Gln Val Lys Cys Arg Lys Gly Glu Gln Cys Val His Thr
201 1345                1350                1355                1360
202 Ala Ser Gly Pro Arg Cys Phe Cys Pro Ser Pro Arg Asp Cys Glu Ser
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RAW SEQUENCE LISTING DATE: 06/16/2006
PATENT APPLICATION: US/10/781,059 TIME: 12:31:59

Input Set : E:\7326-132.TXT
Output Set: N:\CRF4\06162006\J781059.raw

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204 Gly Cys Ala Ser Ser Pro Cys Gln His Gly Gly Ser Cys His Pro Gln
205             1380                 1385                 1390
206 Arg Gln Pro Pro Tyr Tyr Ser Cys Gln Cys Ala Pro Pro Phe Ser Gly
207         1395                 1400                 1405
208 Ser Arg Cys Glu Leu Tyr Thr Ala Pro Pro Ser Thr Pro Pro Ala Thr
209     1410                 1415                 1420
210 Cys Leu Ser Gln Tyr Cys Ala Asp Lys Ala Arg Asp Gly Val Cys Asp
211 1425                 1430                 1435                 1440
212 Glu Ala Cys Asn Ser His Ala Cys Gln Trp Asp Gly Gly Asp Cys Ser
213                 1445                 1450                 1455
214 Leu Thr Met Glu Asn Pro Trp Ala Asn Cys Ser Ser Pro Leu Pro Cys
215             1460                 1465                 1470
216 Trp Asp Tyr Ile Asn Asn Gln Cys Asp Glu Leu Cys Asn Thr Val Glu
217         1475                 1480                 1485
218 Cys Leu Phe Asp Asn Phe Glu Cys Gln Gly Asn Ser Lys Thr Cys Lys
219     1490                 1495                 1500
220 Tyr Asp Lys Tyr Cys Ala Asp His Phe Lys Asp Asn His Cys Asn Gln
221 1505                 1510                 1515                 1520
222 Gly Cys Asn Ser Glu Glu Cys Gly Trp Asp Gly Leu Asp Cys Ala Ala
223                 1525                 1530                 1535
224 Asp Gln Pro Glu Asn Leu Ala Glu Gly Thr Leu Val Ile Val Val Leu
225             1540                 1545                 1550
226 Met Pro Pro Glu Gln Leu Leu Gln Asp Ala Arg Ser Phe Leu Arg Ala
227         1555                 1560                 1565
228 Leu Gly Thr Leu Leu His Thr Asn Leu Arg Ile Lys Arg Asp Ser Gln
229     1570                 1575                 1580
230 Gly Glu Leu Met Val Tyr Pro Tyr Tyr Gly Glu Lys Ser Ala Ala Met
231 1585                 1590                 1595                 1600
232 Lys Lys Gln Arg Met Thr Arg Arg Ser Leu Pro Gly Glu Gln Glu Gln
233                 1605                 1610                 1615
234 Glu Val Ala Gly Ser Lys Val Phe Leu Glu Ile Asp Asn Arg Gln Cys
235             1620                 1625                 1630
236 Val Gln Asp Ser Asp His Cys Phe Lys Asn Thr Asp Ala Ala Ala Ala
237         1635                 1640                 1645
238 Leu Leu Ala Ser His Ala Ile Gln Gly Thr Leu Ser Tyr Pro Leu Val
239     1650                 1655                 1660
240 Ser Val Val Ser Glu Ser Leu Thr Pro Glu Arg Thr Gln Leu Leu Tyr
241 1665                 1670                 1675                 1680
242 Leu Leu Ala Val Ala Val Val Ile Ile Leu Phe Ile Ile Leu Leu Gly
243                 1685                 1690                 1695
244 Val Ile Met Ala Lys Arg Lys Arg Lys His Gly Ser Leu Trp Leu Pro
245             1700                 1705                 1710
246 Glu Gly Phe Thr Leu Arg Arg Asp Ala Ser Asn His Lys Arg Arg Glu
247         1715                 1720                 1725
248 Pro Val Gly Gln Asp Ala Val Gly Leu Lys Asn Leu Ser Val Gln Val
249     1730                 1735                 1740
250 Ser Glu Ala Asn Leu Ile Gly Thr Gly Thr Ser Glu His Trp Val Asp
251 1745                 1750                 1755                 1760
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<210> SEQ ID NO 2
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<212> TYPE: PRT
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<222> LOCATION: (875)...(875)
<223> OTHER INFORMATION: Xaa can be any naturally ocurring amino acid
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'Val' at this Location

'Leu' at this Location

'Pro' at this location

Met Pro Pro Leu Leu Ala Pro Leu Leu Cys Leu Ala Leu Leu Pro Ala
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Leu Ala Ala Arg Gly Pro Arg Cys Ser Gln Pro Gly Glu Thr Cys Leu
20 25 30
Asn Gly Gly Lys Cys Glu Ala Ala Asn Gly Thr Glu Ala Cys Val Cys
35 40 45
Gly Gly Ala Phe Val Gly Pro Arg Cys Gln Asp Pro Asn Pro Cys Leu
50 55 60
Ser Thr Pro Cys Lys Asn Ala Gly Thr Cys His Val Val Asp Arg Arg
65 70 75 80
Gly Val Ala Asp Tyr Ala Cys Ser Cys Ala Leu Gly Phe Ser Gly Pro
85 90 95
Leu Cys Leu Thr Pro Leu Asp Asn Ala Cys Leu Thr Asn Pro Cys Arg
100 105 110
Asn Gly Gly Thr Cys Asp Leu Leu Thr Leu Thr Glu Tyr Lys Cys Arg
115 120 125
Cys Pro Pro Gly Trp Ser Gly Lys Ser Cys Gln Gln Ala Asp Pro Cys
130 135 140
Ala Ser Asn Pro Cys Ala Asn Gly Gly Gln Cys Leu Pro Phe Glu Ala
145 150 155 160
Ser Tyr Ile Cys His Cys Pro Pro Ser Phe His Gly Pro Thr Cys Trp
165 170 175
Gln Asp Val Asn Glu Cys Gly Gln Lys Pro Arg Leu Cys Arg His Gly
180 185 190
Gly Thr Cys His Asn Glu Val Gly Ser Tyr Arg Cys Val Cys Arg Ala
195 200 205
Thr His Thr Gly Pro Asn Cys Glu Trp Pro Tyr Val Pro Cys Ser Pro
210 215 220
Ser Pro Cys Gln Asn Gly Gly Thr Cys Arg Pro Thr Gly Asp Val Thr
225 230 235 240
His Glu Cys Ala Cys Leu Pro Gly Phe Thr Gly Gln Asn Cys Glu Glu
245 250 255
Asn Ile Asp Asp Cys Pro Gly Asn Asn Cys Lys Asn Gly Gly Ala Cys
260 265 270
Val Asp Gly Val Asn Thr Tyr Asn Cys Pro Cys Pro Pro Glu Trp Thr
275 280 285
Gly Gln Tyr Cys Thr Glu Asp Val Asp Glu Cys Gln Leu Met Pro Asn
290 295 300
Ala Cys Gln Asn Gly Gly Thr Cys His Asn Thr His Gly Gly Tyr Asn
305 310 315 320

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Cys Val Cys Val Asn Gly Trp Thr Gly Glu Asp Cys Ser Glu Asn Ile
                325                 330                 335
Asp Asp Cys Ala Ser Ala Ala Cys Phe His Gly Ala Thr Cys His Asp
            340                 345                 350
Arg Val Ala Ser Phe Tyr Cys Glu Cys Pro His Gly Arg Thr Gly Leu
        355                 360                 365
Leu Cys His Leu Asn Asp Ala Cys Ile Ser Asn Pro Cys Asn Glu Gly
    370                 375                 380
Ser Asn Cys Asp Thr Asn Pro Val Asn Gly Lys Ala Ile Cys Thr Cys
385                 390                 395                 400
Pro Ser Gly Tyr Thr Gly Pro Ala Cys Ser Gln Asp Val Asp Glu Cys
                405                 410                 415
Ser Leu Gly Ala Asn Pro Cys Glu His Ala Gly Lys Cys Ile Asn Thr
            420                 425                 430
Leu Gly Ser Phe Glu Cys Gln Cys Leu Gln Gly Tyr Thr Gly Pro Arg
        435                 440                 445
Cys Glu Ile Asp Val Asn Glu Cys Val Ser Asn Pro Cys Gln Asn Asp
    450                 455                 460
Ala Thr Cys Leu Asp Gln Ile Gly Glu Phe Gln Cys Met Cys Met Pro
465                 470                 475                 480
Gly Tyr Glu Gly Val His Cys Glu Val Asn Thr Asp Glu Cys Ala Ser
                485                 490                 495
Ser Pro Cys Leu His Asn Gly Arg Cys Leu Asp Lys Ile Asn Glu Phe
            500                 505                 510
Gln Cys Glu Cys Pro Thr Gly Phe Thr Gly His Leu Cys Gln Tyr Asp
        515                 520                 525
Val Asp Glu Cys Ala Ser Thr Pro Cys Lys Asn Gly Ala Lys Cys Leu
    530                 535                 540
Asp Gly Pro Asn Thr Tyr Thr Cys Val Cys Thr Glu Gly Tyr Thr Gly
545                 550                 555                 560
Thr His Cys Glu Val Asp Ile Asp Glu Cys Asp Pro Asp Pro Cys His
                565                 570                 575
Tyr Gly Ser Cys Lys Asp Gly Val Ala Thr Phe Thr Cys Leu Cys Arg
            580                 585                 590
Pro Gly Tyr Thr Gly His His Cys Glu Thr Asn Ile Asn Glu Cys Ser
        595                 600                 605
Ser Gln Pro Cys Arg Leu Trp Gly Thr Cys Gln Asp Pro Asp Asn Ala
    610                 615                 620
Tyr Leu Cys Phe Cys Leu Lys Gly Thr Thr Gly Pro Asn Cys Glu Ile
625                 630                 635                 640
Asn Leu Asp Asp Cys Ala Ser Ser Pro Cys Asp Ser Gly Thr Cys Leu
                645                 650                 655
Asp Lys Ile Asp Gly Tyr Glu Cys Ala Cys Glu Pro Gly Tyr Thr Gly
            660                 665                 670
Ser Met Cys Asn Ser Asn Ile Asp Glu Cys Ala Gly Asn Pro Cys His
        675                 680                 685
Asn Gly Gly Thr Cys Glu Asp Gly Ile Asn Gly Phe Thr Cys Arg Cys
    690                 695                 700
Pro Glu Gly Tyr His Asp Pro Thr Cys Leu Ser Glu Val Asn Glu Cys
705                 710                 715                 720
Asn Ser Asn Pro Cys Val His Gly Ala Cys Trp Asp Ser Leu Asn Gly
                725                 730                 735
Tyr Lys Cys Asp Cys Asp Pro Gly Trp Ser Gly Thr Asn Cys Asp Ile
            740                 745                 750
Asn Asn Asn Glu Cys Glu Ser Asn Pro Cys Val Asn Gly Gly Thr Cys
        755                 760                 765
Lys Asp Met Thr Ser Gly Ile Val Cys Thr Cys Trp Glu Gly Phe Ser
```

```
    770                 775                 780
Gly Pro Asn Cys Gln Thr Asn Ile Asn Glu Cys Ala Ser Asn Pro Cys
785                 790                 795                 800
Leu Asn Lys Gly Thr Cys Ile Asp Asp Val Ala Gly Tyr Lys Cys Asn
                805                 810                 815
Cys Leu Leu Pro Tyr Thr Gly Ala Thr Cys Glu Val Val Leu Ala Pro
            820                 825                 830
Cys Ala Pro Ser Pro Cys Arg Asn Gly Gly Glu Cys Arg Gln Ser Glu
        835                 840                 845
Asp Tyr Glu Ser Phe Ser Cys Val Cys Pro Thr Ala Gly Ala Lys Gly
    850                 855                 860
Gln Thr Cys Glu Val Asp Ile Asn Glu Cys Val Leu Ser Pro Cys Trp
865                 870                 875                 880
His Gly Ala Ser Cys Gln Asn Thr His Gly Xaa Tyr Arg Cys His Cys
                885                 890                 895
Gln Ala Gly Tyr Ser Gly Arg Asn Cys Glu Thr Asp Ile Asp Asp Cys
            900                 905                 910
Trp Pro Asn Pro Cys His Asn Gly Gly Ser Cys Thr Asp Gly Ile Asn
        915                 920                 925
Thr Ala Phe Cys Asp Cys Leu Pro Gly Phe Trp Gly Thr Phe Cys Glu
    930                 935                 940
Glu Asp Ile Asn Glu Cys Ala Ser Asp Pro Cys Arg Asn Gly Ala Asn
945                 950                 955                 960
Cys Thr Asp Cys Val Asp Ser Tyr Thr Cys Thr Cys Pro Ala Gly Phe
                965                 970                 975
Ser Gly Ile His Cys Glu Asn Asn Thr Pro Asp Cys Thr Glu Ser Ser
            980                 985                 990
Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile Asn Ser Phe Thr Cys
        995                 1000                1005
Leu Cys Pro Pro Gly Phe Thr Gly Ser Tyr Cys Gln His Val Val Asn
    1010                1015                1020
Glu Cys Asp Ser Arg Pro Cys Leu Leu Gly Gly Thr Cys Gln Asp Gly
1025                1030                1035                1040
Arg Gly Leu His Arg Cys Thr Cys Pro Gln Gly Tyr Thr Gly Pro Asn
                1045                1050                1055
Cys Gln Asn Leu Val His Trp Cys Asp Ser Ser Pro Cys Lys Asn Gly
            1060                1065                1070
Gly Lys Cys Trp Gln Thr His Thr Gln Tyr Arg Cys Glu Cys Pro Ser
        1075                1080                1085
Gly Trp Thr Gly Leu Tyr Cys Asp Val Pro Ser Val Ser Cys Glu Val
    1090                1095                1100
Ala Ala Gln Arg Gln Gly Val Asp Val Ala Arg Leu Cys Gln His Gly
1105                1110                1115                1120
Gly Leu Cys Val Asp Ala Gly Asn Thr His His Cys Arg Cys Gln Ala
                1125                1130                1135
Gly Tyr Thr Gly Ser Tyr Cys Glu Asp Leu Val Asp Glu Cys Ser Pro
            1140                1145                1150
Ser Pro Cys Gln Asn Gly Ala Thr Cys Thr Asp Tyr Leu Gly Gly Tyr
        1155                1160                1165
Ser Cys Lys Cys Val Ala Gly Tyr His Gly Val Asn Cys Ser Glu Glu
    1170                1175                1180
Ile Asp Glu Cys Leu Ser His Pro Cys Gln Asn Gly Gly Thr Cys Leu
1185                1190                1195                1200
Asp Leu Pro Asn Thr Tyr Lys Cys Ser Cys Pro Trp Gly Thr Gln Gly
                1205                1210                1215
Val His Cys Glu Ile Asn Val Asp Asp Cys Asn Pro Pro Val Asp Pro
            1220                1225                1230
```

P/S o Explain Xaa location See pg-11 for Error Explanation

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Val Ser Trp Ser Pro Lys Cys Phe Asn Asn Gly Thr Cys Val Asp Gln
        1235                1240                1245
Val Gly Gly Tyr Ser Cys Thr Cys Pro Pro Gly Phe Val Gly Glu Arg
    1250                1255                1260
Cys Glu Gly Asp Val Asn Glu Cys Leu Ser Asn Pro Cys Asp Ala Arg
1265                1270                1275                1280
Gly Thr Gln Asn Cys Val Gln Arg Val Asn Asp Phe His Cys Glu Cys
                1285                1290                1295
Arg Ala Gly His Thr Gly Arg Arg Cys Glu Ser Val Ile Asn Gly Cys
            1300                1305                1310
Lys Gly Lys Pro Cys Lys Asn Gly Gly Thr Cys Ala Val Ala Ser Asn
        1315                1320                1325
Thr Ala Arg Gly Phe Ile Cys Lys Cys Pro Ala Gly Phe Glu Gly Ala
    1330                1335                1340
Thr Cys Glu Asn Asp Ala Arg Thr Cys Gly Ser Leu Arg Cys Leu Asn
1345                1350                1355                1360
Gly Gly Thr Cys Ile Ser Gly Pro Arg Ser Pro Thr Cys Leu Cys Leu
                1365                1370                1375
Gly Pro Phe Thr Gly Pro Glu Cys Gln Phe Pro Ala Ser Ser Pro Cys
            1380                1385                1390
Leu Gly Gly Asn Pro Cys Tyr Asn Gln Gly Thr Cys Glu Pro Thr Ser
        1395                1400                1405
Glu Ser Pro Phe Tyr Arg Cys Leu Cys Pro Ala Lys Phe Asn Gly Leu
    1410                1415                1420
Leu Cys His Ile Leu Asp Tyr Ser Phe Gly Gly Gly Ala Gly Arg Asp
1425                1430                1435                1440
Ile Pro Pro Pro Leu Ile Glu Glu Ala Cys Glu Leu Pro Glu Cys Gln
                1445                1450                1455
Glu Asp Ala Gly Asn Lys Val Cys Ser Leu Gln Cys Asn Asn His Ala
            1460                1465                1470
Cys Gly Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp Pro Trp
        1475                1480                1485
Lys Asn Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser Asp Gly
    1490                1495                1500
His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp Gly Phe
1505                1510                1515                1520
Asp Cys Gln Arg Ala Glu Gly Gln Cys Asn Pro Leu Tyr Asp Gln Tyr
                1525                1530                1535
Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys Asn Ser
            1540                1545                1550
Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val Pro Glu
        1555                1560                1565
Arg Leu Ala Ala Gly Thr Leu Val Val Val Val Leu Met Pro Pro Glu
    1570                1575                1580
Gln Leu Arg Asn Ser Ser Phe His Phe Leu Trp Glu Leu Ser Arg Val
1585                1590                1595                1600
Leu His Thr Asn Val Val Phe Lys Arg Asp Ala His Gly Gln Gln Met
                1605                1610                1615
Ile Phe Pro Tyr Tyr Gly Arg Glu Glu Glu Leu Arg Lys His Pro Ile
            1620                1625                1630
Lys Arg Ala Ala Glu Gly Trp Ala Ala Pro Asp Ala Leu Leu Gly Gln
        1635                1640                1645
Val Lys Ala Ser Leu Leu Pro Gly Gly Ser Glu Gly Gly Trp Trp Trp
    1650                1655                1660
Arg Glu Leu Asp Pro Met Asp Val Arg Gly Ser Ile Val Tyr Leu Glu
1665                1670                1675                1680
Ile Asp Asn Trp Gln Cys Val Gln Ala Ser Ser Gln Cys Phe Gln Ser
```

```
                1685                1690                1695
Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala Ser Leu Gly Ser
          1700                1705                1710
Leu Asn Ile Pro Tyr Lys Ile Glu Ala Val Gln Ser Glu Thr Val Glu
        1715                1720                1725
Pro Pro Pro Pro Ala Gln Leu His Phe Met Tyr Val Ala Ala Ala Ala
    1730                1735                1740
Phe Val Leu Leu Phe Phe Val Gly Cys Gly Val Leu Leu Ser Arg Lys
1745                1750                1755                1760
Arg Trp Xaa Gln His Gly Gln Leu Trp Phe Pro Glu Gly Phe Lys Val
                1765                1770                1775
Ser Glu Ala Ser Lys Lys Lys Trp Trp Glu Xaa Leu Gly Glu Asp Ser
          1780                1785                1790
Val Gly Leu Lys Pro Leu Lys Asn Ala Ser Asp Gly Ala Leu Met Asp
        1795                1800                1805
```

1771

Same Error

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/16/2006
PATENT APPLICATION: US/10/781,059 TIME: 12:32:00

Input Set : E:\7326-132.TXT
Output Set: N:\CRF4\06162006\J781059.raw

Error Explanation

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos. 891,1763,1787

VERIFICATION SUMMARY DATE: 06/16/2006
PATENT APPLICATION: US/10/781,059 TIME: 12:32:00

Input Set : E:\7326-132.TXT
Output Set: N:\CRF4\06162006\J781059.raw

L:475 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:880
L:585 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:1760
L:587 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:1776